

REMARKS

This paper is responsive to the Office Action dated 01/28/2009 wherein claims 12-30 were rejected. Claims 12-30 remain pending in this application. In view of the following remarks, Applicants request further examination and reconsideration of the present patent application.

35 USC 102

Applicants respectfully traverse the rejection of claims 12-30 under 35 USC §102 (e) as being anticipated by Ang Shih, US 20005/ 0152504 (hereinafter "Shih"). Applicants respectfully submit that the cited reference fails to teach or disclose the claims 12-30 recitations of the present application.

The cited reference does not disclose features recited by independent claims 12, 21, 28, 29 and 30.

A prima facie case of anticipation under 35 U.S.C. §102 requires a showing that each limitation of a claim is found in a single reference, practice or device. Applicants respectfully assert that the present invention, as recited in independent claims 12, 21, 28, 29 and 30 are patentable over the Shih reference.

Independent claims 12, 21 and 30 recite *inter alia* "generating a variance map from measured projection data acquired from a tomography system comprising: accessing the measured projection data from the tomography system, formulating a variance measure based upon the measured projection data, and generating the variance map from the variance measure using a reconstruction algorithm." (Emphasis added). Thus, as recited in the independent claims a measured projection data is acquired by a tomography system. The same measured projection data is then accessed from the tomography system and a variance measure based on the measured projection data is generated. Thereafter, a variance map is generated from the variance measure using a reconstruction algorithm. The present application teaches "an efficient approach for processing measured data and for generating variance data from measured projection image data." (See Application page 10, paragraph 0033). The Shih reference does not teach formulating a variance measure based upon the measured projection data. Shih teaches producing a variance reconstruction of variations between an object and a standard, which involves generating variance projections from the object projections by

comparing the object projections with stored standard projections. (Emphasis added) (See Shih, paragraph 0010). Clearly, comparing the object projections with the standard projections is not the same as using the same measured projection data to formulate the variance measure as in the present application.

Further, Applicants respectfully submit that in the present application the variance is computed on a pixel-by-pixel basis (See Application, page 10, paragraph 0034, also Fig. 4) as opposed to the Shih reference where the variation projections are generated from comparing the object projections with the stored standard projections. (See Shih paragraph 0010). Also, the present application teaches generating the variance map from the variance measure using a reconstruction algorithm. Shih fails to teach generating the variance map from the variance measure from the measured projection data. On the contrary, Shih teaches generating 3D variance reconstruction of the variations between the object and the standard, and the object is qualified based on the variance reconstruction. (Emphasis added) (See Shih paragraph 0043). Clearly, variance reconstruction of the variations between the object and the standard cannot be equated with generating the variance map from the variance measure from the measured projection data using a reconstruction algorithm as in the present application.

The Applicants respectfully submit that Shih fails to teach generating variance data from the measured projection data and generating a variance map from the measured projection data as in the present application. For example, the measured projection data in the present application is acquired by the computed tomography system. The measured projection data is stored and is accessed for processing to identify variances in the pixel data. The processing comprises generating variance data and where desired, a variance map from the measured projection data. This variance map may be displayed or processed for diagnostic purposes. (See Application FIG. 6, See *a/so*, page 11, paragraph 0037). Further, the measured projection data may be reacquired based on the variance data computed. Such reacquisition may be useful for adapting a subsequent acquisition sequence by altering the acquisition system settings based upon the variance map. For example, a subsequent acquisition may be performed at a higher dosage to permit an enhanced image to be reconstructed with greater analytical or clinical value. (See Application page 12, paragraph 0039). Applicants respectfully submit that the present technique as described in the current application greatly facilitates the analysis process by permitting rapid analysis of the reliability of image data and reacquisition, where appropriate, obviating the need to schedule a second, subsequent imaging session. (See Application page 12, paragraph 0039). The Applicants believe the subject matter

mentioned hereinabove to be entirely absent from the Shih reference. As such, the Applicants believe that no *prima facie* case of anticipation exists with respect to independent claims 12, 21 and 30.

With regard to independent claim 28, the claim teaches "a processor configured to process the plurality of electrical signals to generate measured projection data, wherein the processor is further configured to access the measured projection data from the tomography system; to formulate a variance measure based upon the measured projection data, to generate a variance map based upon the variance measure using a reconstruction algorithm, and to display, analyze or process the variance map." Applicants respectfully submit that the Shih reference fails to teach a processor configured to access the measured projection data from the tomography system. Additionally, the Shih reference fails to teach a processor configured to formulate a variance measure based upon the measured projection data as in the present application.

With regard to Independent claim 29, the claim teaches a computer-readable medium storing computer instructions for instructing a computer system for generating a variance map from projection data acquired from a tomography system, the computer instructions comprising: accessing the projection data from the tomography system, generating a variance map from the projection data and displaying analyzing or processing the variance map. Applicants respectfully submit that the computer-readable medium as recited in independent claim 29 is not recited in the Shih reference.

Claims 13-20 and 22-27 depend directly or indirectly from claims 12 and 21 respectively. Accordingly, the Applicants respectfully submit that claims 13-20 and 22-27 are allowable by virtue of their dependency from the allowable base claims. Applicants also submit that the dependent claims are further allowable by the virtue of the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 12-30 under 35 USC §102(e) be withdrawn.

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Reply to Office Action of 01/28/2009

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Summary

For the reasons set out above, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and allowance of the application are, therefore, respectfully requested.

If the Examiner believes that anything further is necessary to place the application in better condition for allowance, the Examiner is kindly asked to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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